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## NOTE ON AMEIURUS PROSTHISTIUS.

BY HENRY W. FOWLER.

*Ameiurus prosthistius* Cope.*Amiurus prosthistius* Cope, Proc. Acad. Nat. Sci. Phila., 1883, 132.*Ameiurus erebennus* Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, I, 1896, 139 (part).

Upon a recent examination of the typical and other specimens of the present species I have arrived at the conclusion that *Amiurus prosthistius* of Cope is specifically distinct from *Ameiurus erebennus* of Jordan.<sup>1</sup> The material at hand, consisting of seventeen specimens from the collection of the late Prof. E. D. Cope, is in excellent preservation and is at present the property of this Academy. As four specimens, Nos. 20,546, 20,547, 20,548 and 20,549, are typical, I have selected No. 20,546 as the type, as it is the first one mentioned in the description, and also from the fact that it had a small label in Prof. Cope's handwriting placed in the branchial aperture which reads, "*Amiurus prosthistius* Cope type." All of the specimens mentioned were collected in the Batsto river, N. J., June 15, 1883, by Prof. Cope. Other specimens collected by him are Nos. 20,927, 20,928, 20,929, 20,930, 20,931, 20,932, 20,933, 20,934 and 20,935 from Pool Tolsoms, and Nos. 20,616, 20,617 and 20,618, also from pools at the head of the Egg Harbor river, N. J.

The form of the body is much as in *Ameiurus natalis* (Le Sueur). Head longer than broad, convexly flattened above, the upper profile line nearly straight to the origin of the D., though the region directly before the D. is swollen on each side. The snout is blunt, obtuse, with the upper lip projecting slightly beyond the lower. The lips are moderately thick, fleshy and generally papillose. Nares situated laterally and anteriorly, the anterior pair about an eye diameter from the posterior pair and near the edge of the snout. The posterior nares are slightly more distant from each other than the anterior pair, but not so distant from each other as

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<sup>1</sup> Bull. U. S. Nat. Mus., X, 1877, 85, Pl. xiii, Figs. 19 and 20.

the eyes, and the aperture is larger than that of the anterior pair. The nasal barbels, which originate directly in front of the posterior nares, are not as long as the head, but in younger examples are much longer than in the adults. The maxillary barbels are the longest and reach to the origin of the D. in the young, but do not extend much, if any, beyond the head in the adults. The tips of the outer mental barbels do not reach as far posteriorly as those of the maxillary, though they reach beyond the base of the P. in the young, and to its base in the adults. The inner mental barbels are not as long as the outer at any age. Mouth broad and somewhat semi-lunar, and furnished with bands of teeth of about equal width. In the type a system of minute pores extends along the lower edge of the mandibles, and this is also discernible in other specimens. The gill-membranes are broad, not overlapping, and the angle formed at the isthmus would be equilateral. Gill-rakers short and of moderate number. The eye is lateral and superior, anterior to the centre of the length of the head, and of a very deeply elliptical shape. The posterior and lower margins of the operculum form a small fleshy gill-flap. The occipital process does not reach the interspinal bones, and the bridge of bone is thus incomplete. The origin of the P. is anterior to the posterior opercular margin, and the tip of the spine extends, when depressed, to or beyond the origin of the D. The P. spine with or without several shallow indistinct denticulations on its outer edge near the tip, the inner edge is strongly serrated, and most of the rays of the fin are longer than the spine. Humeral process only slightly rugose and extending slightly beyond the middle of the P. spine. The tip of the P. fin reaches the last D. ray in the vertical and the origin of the A., or very near it, in the young, though in the adults it falls considerably short. The A. encroaches on the V. for at least a third of its length in the young, though very little in the adults. Posterior margin of the base of the Adipose fin nearer to the tip of the caudal than the tip of the D. spine in the adults, but about median in position in the young.

Upper rudimentary caudal rays developed and extending anteriorly at least to below the tip of the Adipose fin. Color of the body blackish-brown, darkest above, belly to the origin of the A. whitish. The terminal portions of the fins are blackish and the bases of the P. and V. lighter. In all of these examples the nasal

and maxillary barbels are blackish colored like the prevailing body-color, though the latter are somewhat paler on their terminal portions, and all of the mental barbels are distinctly of the same whitish color as the belly and lower anterior surface of the body. The lower lip is also margined narrowly with brownish. The fin formulæ and measurements are as follows (the latter in millimeters) in the typical specimens:

Radii of D., . . . . .	I, 6	I, 6	I, 6	I, 6
“ “ A. (counting rudiments), . . . . .	27	27	25	26
“ “ P., . . . . .	I, 8	I, 8	I, 8	I, 8
“ “ V., . . . . .	8	8	8	8
Length of D. spine, . . . . .	15	18	17	20
“ “ P. spine, . . . . .	20	22	24	21
Longest D. ray, . . . . .	26	27	27	27
“ P. ray, . . . . .	24	26	26	27
“ V. ray, . . . . .	21	21	20	25
“ A. ray, . . . . .	23	26	22	28
Head without opercular flap, . . . . .	44	46	48	53
Depth of body, . . . . .	38	38	44	42
Between outer edges of P. spines, . . . . .	35	39	42	43
Humeral process, . . . . .	13	14	15	15
Postocular part of head, . . . . .	25	30	28	31
Length of eye, . . . . .	6	6	6	6
Tip of snout to origin of D., . . . . .	65	70	73	86
Interorbital space, . . . . .	25	25	27	27
Posterior internasal region, . . . . .	16	16	17	18
Least depth of caudal peduncle, . . . . .	23	23	21	24
Base of A., . . . . .	49	55	53	56
Total length, . . . . .	208	216	216	230

The fin formulæ and measurements of the remaining specimens (the latter also in millimeters) range as follows:

Radii of D., . . . . .	I, 6
“ “ A. (counting rudiments), . . . . .	(25?) 26 to 28
“ “ P., . . . . .	I, 8
“ “ V., . . . . .	8
Length of D. spine, . . . . .	9 to 13
“ “ P. spine, . . . . .	11 to 19
Longest D. ray, . . . . .	12 to 20
“ P. ray, . . . . .	13 to 19

Longest V. ray, . . . . .	10 to 16
“ A. ray, . . . . .	12 to 19
Head without opercular flap, . . . . .	16 to 31
Depth of body, . . . . . (circa)	16 to 27
Between outer edges of P. spine, . . . . .	15 to 25
Humeral process, . . . . .	5 to 10
Postocular part of head, . . . . .	9 to 18
Length of eye, . . . . .	3 to 5
Tip of snout to origin of D., . . . . .	24 to 42
Interorbital space, . . . . .	9 to 17
Posterior internasal region, . . . . .	6 to 12
Least depth of caudal peduncle, . . . . .	9 to 17
Base of A., . . . . .	21 to 38
Total length, . . . . .	83 to 142

As Prof. Cope has contended, this species proves to be closely allied to *Amiurus natalis* (Le Sueur), of which it may be found to be a subspecies, but at present it seems advisable to consider it distinct. *Amiurus erebennus* of Jordan is certainly different, as the caudal of that species is stated as being short and truncated; in the figure it is represented with somewhat acute tips and with the posterior margin a little emarginated; all the barbels are said to be black, the A. with 22 to 24 rays and the occipital process only little free behind. *Ameiurus prosthistius* is easily distinguishable as the shape of the caudal is altogether different, the upper rudimentary rays greatly exceed the development of the lower, the caudal itself is rounded, not at all truncate, emarginate or pointed, the inferior barbels are all whitish like the lower anterior surface of the body, and the A. has as many as 28 rays. In all the smaller examples examined, all possessed at least 26 A. rays, except one of which I am doubtful that has 25?, while the majority had 27.